

CLAIMS:

1. Loudspeaker provided with a frame, a diaphragm and an electric driving means for moving the diaphragm along an axis of translation with respect to the frame, which diaphragm runs round the axis of translation and includes an outer conical first diaphragm body and an inner conical second diaphragm body which is invertedly oriented with respect to and positioned inside the first diaphragm body, each body having a base portion and a top portion, the top portion of the first diaphragm body and the base portion of the second diaphragm body being interconnected, and which electric driving means includes a stationary part connected to the frame and a movable part, wherein the diaphragm is suspended from the frame through a first flexible suspension means extending between the base portion of the first diaphragm body and the frame and through a second flexible suspension means extending between the top portion of the first diaphragm body and/or the base portion of the second diaphragm body on the one hand and the frame or a mechanical structure fixed to the frame on the other hand, and wherein the top portion of the second diaphragm body is attached to the movable part of the driving means.
2. Loudspeaker as claimed in Claim 1, wherein the driving means is positioned opposite to the second diaphragm body and at least partly inside the first diaphragm body.
3. Loudspeaker as claimed in Claim 1, wherein the stationary part of the driving means includes a magnetic yoke with a permanent magnet and the movable part of the driving means includes a driving coil for an electromagnetical cooperation with the magnetic yoke.
4. Loudspeaker as claimed in Claim 1, wherein the first flexible suspension means is attached to the first diaphragm body on the one hand and the frame or a mounting element fixed to the frame on the other hand.
5. Loudspeaker as claimed in Claim 1, wherein the second flexible suspension means is a radial bearing means.

6. Loudspeaker as claimed in Claim 1, wherein the second flexible suspension means is attached to the first and/or second diaphragm body on the one hand and the frame or the mechanical structure fixed to the frame on the other hand.

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7. Loudspeaker as claimed in Claim 6, wherein the mechanical structure includes a mounting element secured to the stationary part of the driving means.

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8. Loudspeaker as claimed in Claim 6, wherein the mounting element comprises a central support located at the axis of translation of the diaphragm and at least partly positioned inside the diaphragm.

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9. Loudspeaker as claimed in Claim 1, wherein the first diaphragm body and the second diaphragm body form an integral diaphragm body.

10. Loudspeaker unit provided with an enclosure and a built-in loudspeaker according to any one of the preceding Claims.